

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An integrated memory system, comprising at least a non-volatile solid-state memory and an automatic storage error corrector, characterized in that the memory system comprises circuit means, functionally independent, each of them being responsible for the correction of a predetermined storage error of data stored in the memory; at least one of said means generating a signal to ask a correction being external to the memory.
2. (Currently Amended) A system according to claim 1, characterized in that said memory is connected to a controller by means of an interface bus and said circuit means are incorporated both in the memory and in the controller.
3. (Currently Amended) A system according to claim 1, characterized in that, in the memory, said means comprise:
 - circuits for the coding required to correct two errors;
 - a logic for calculating ~~the~~ a syndrome;
 - a circuit for correcting a single error;
 - a logic for detecting more than one error.
4. (Original) A system according to claim 3, characterized in that said means also comprise:
 - a logic for bringing to the controller:
 - a one-or-no-error-corrected data ;
 - the uncorrected error; and
 - the calculated syndrome.

5. (Currently Amended) A system according to claim 2, characterized in that said circuit means comprise a circuit for generating a signal activated to request the external correction of an error by said controller.

6. (Currently Amended) A system according to claim 3, characterized in that said coding block ~~circuits~~ is-are located immediately downstream of the input terminal of said memory and performs a vector product proportional to the number of parity bits and obtained through the synthesis of a corresponding logic function.

7. (Currently Amended) A system according to claim 6, characterized in that said logic for calculating the syndrome uses ~~again the a~~ a parity calculation circuit of the coding block ~~circuits~~.

8. (Original) A system according to claim 3, characterized in that said circuit for correcting a single error comprises a block for decoding a single error effective to recognise each of the several syndromes associated to a single error to activate, through a corresponding vector, the correction of the corresponding bit.

9. (Currently Amended) A system, comprising:
a first circuit operable to store data in a non-volatile solid-state memory, the data having associated therewith at least one storage error of a plurality of storage-error types, the first circuit operable to correct a first-type error of the plurality of storage-error types; and
a second circuit coupled to the first circuit, the second circuit operable to correct a second-type error of the plurality of storage-error types.

10. (Original) The system of claim 9 wherein the second circuit is operable to generate a signal requesting correction of a third-type error of the plurality of storage-error types.

11. (Original) The system of claim 9 wherein the first circuit is further operable to determine at least one syndrome associated with the at least one storage error.
12. (Original) The system of claim 9 wherein the first circuit is further operable to detect the second-type error.
13. (Original) The system of claim 9 wherein the second circuit corrects the second-type error in response to a signal generated by the first circuit.
14. (Original) The system of claim 9 wherein the first circuit comprises a non-volatile memory.
15. (Original) The system of claim 9 wherein:
the first circuit is disposed on a first integrated circuit; and
the second circuit is disposed on a second integrated circuit.
16. (Original) The system of claim 9 wherein the first and second circuits are disposed on an integrated circuit.
17. (Currently Amended) A memory device, comprising:
a non-volatile solid-state storage portion operable to store data having associated therewith at least one storage error of a plurality of storage-error types;
a first circuit operable to correct a first-type error of the plurality of storage-error types; and
a second circuit operable to generate a signal indicating detection of a second-type error of the plurality of storage-error types.
18. (Original) The device of claim 17, further comprising a third circuit operable to determine at least one syndrome associated with the at least one storage error.
19. (Currently Amended) A method, comprising:

storing, in a non-volatile solid-state memory location of a device, data having associated therewith at least one storage error of a plurality of storage-error types; and
correcting, at the memory location, a first-type error of the plurality of storage-error types.

20. (Original) The method of claim 19, further comprising generating, at the memory location, an interrupt-request signal indicating detection of a second-type error of the plurality of storage-error types.

21. (Currently Amended) An electronic system, comprising:

a first integrated circuit having a non-volatile solid-state memory operable to store data having associated therewith at least one storage error of a plurality of storage-error types, the memory operable to correct a first-type error of the plurality of storage-error types; and

a second integrated circuit coupled to the first circuit, the second integrated circuit having processor operable to correct a second-type error of the plurality of storage-error types.